Literature Reviews with MAXQDA

Free Guide
English
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Introduction

Working with specialized literature is a core element of many scientific disciplines. It is difficult to imagine a report for a project, Master’s thesis, or dissertation in which previous research has not been systematically analyzed and presented (Creswell 2014, 2016, pp. 58–66). As more and more publishers make their journals and publications accessible online, the creation of literature reviews has become easier and more efficient.

MAXQDA is suitable for day-to-day literature management as well as the creation of literature reviews (for example, the preparation of theory chapters and research reports) as well as for systematic reviews for the preparation of research results for meta-analysis. In particular, MAXQDA can be used to manage excerpts and create summaries to support the writing process. When working with literature, bibliographic information (author, year of publication, etc.) must be distinguished from the content of the literature. MAXQDA focuses primarily on the content and is not a specialized reference management software, however, data from such programs can be imported into MAXQDA for further processing.
Working with bibliographic data from reference management programs

MAXQDA offers the possibility to import bibliographic data from reference management software such as Mendeley, Endnote, Citavi and Zotero. Like MAXQDA, these reference managers use project files, meaning databases, containing all collected bibliographic information. The smallest unit of a project is a bibliographic reference (author, title, etc.) which may also contain links to websites, keywords, abstracts, full texts and other information.

MAXQDA can work with all reference management programs that are able to export their databases in RIS-format, a standard format for bibliographic data. A detailed description of the RIS-format can be found on Wikipedia under https://en.wikipedia.org/wiki/RIS_(file_format). RIS data contains “tags”, each consisting of two letters, to which the corresponding information is attached.

Some important tags include:

- **TY** – Type of reference, always introduces a new entry
- **ID** – Unique identification number for the entry
- **AU** – Author
- **TI** – Title
- **PY** – Publication date
- **ER** – must appear at the end of an entry for closure of said entry

Source specification in RIS-format appears as follows:

```
TY  – BOOK
AU  – McLuhan, Marshall
AU  – Fiore, Quentin
TI  – The medium is the message
PY  – 1967
```
A detailed description of all RIS tags can also be found on Wikipedia.

**Import and automatic pre-coding**

RIS data can be imported via the option **BIBLIOGRAPHIC DATA** in the Tab **IMPORT** of the main menu. First, a dialog window with import information will appear, followed by a dialog window, in which the file with the extension RIS or TXT can be selected. During the import process, the following occurs:

- A new document group is created in MAXQDA, whose name begins with “RIS” and is supplemented with the name of the import file.
- All references from the RIS file are added to the newly created document group as a single document. The entries remain in their original order. The imported documents are identified with a book symbol in the **Document System**.
- The document names are structured as follows: `<Author> - <Year> - and if available <ID>`. Empty fields may be indicated with the “?” symbol. In the case of multiple authors, only the first author’s (last and first) name will appear, followed by the abbreviation “et al.”
- The newly created documents contain the information to the right of the tags. The tags themselves will not be imported.
- A new top-level code, “RIS,” will appear in the Code System, which contains all the RIS tags used in the import file as subcodes, for example “TY – Type of reference”.
- Upon import, all documents will be automatically pre-coded, meaning each text excerpt will be coded with the corresponding tag code.
RIS data in MAXQDA following import

Five pieces of information which may also be important for future selections are also stored as document variables:

- **RIS_Type** (Type of Reference) – Text
- **RIS_Author** (First Author) – Text
- **RIS_Title** (Title) – Text
- **RIS_Reference-ID** (Identification number) – Integer
- **RIS_Year** (Year of publication) – Integer
These variables are created as system variables and cannot be changed by the user.

Assumed variable values for each document

**Working with bibliographic data and exporting**

Following import and automatic pre-coding, the bibliographic data is still available in MAXQDA as normal text. This means the data can be searched, coded, linked, edited and have memos added for further qualitative and quantitative data analysis (Kuckartz 2014). Now one can answer questions such as:

- How often are specific authors named?
- Which topics are represented?
- How has the focus on specific topics shifted?
- Are there more journal articles or monographs on a specific topic?
- To what extent have journal article titles changed over time?

Naturally, *Visual Tools* and all other MAXQDA functions, such as graphics and statistics functions, can be applied. On basis of the automatic pre-coding, only documents of a specific type can be selected, for example only journal contributions or only articles in compilations.
Bibliographic data can be exported from MAXQDA in RIS-format, for example to a reference management program. The export function can be accessed via REPORTS > EXPORT > BIBLIOGRAPHIC DATA AS RIS-FILE. All documents of a project containing bibliographic data and therefore identified with a book symbol will be exported in a RIS file (Encoding: UTF-8).
Organizing and analyzing literature and excerpts with MAXQDA

Working with literature – both online and offline – is one of the most important activities not only in research and teaching, but also in NGOs, institutions and for the purpose of market research. Characteristic of working with literature are finding and reading relevant works, identifying important points, understanding arguments, and extracting, compiling and comparing texts. MAXQDA is an excellent tool for these daily tasks. Uta-Kristina Meyer (2014) and Elgen Sauerborn (2014) report in their blog post how they create excerpts for their dissertation and manage them with MAXQDA. The procedure is as follows:

- To the extent possible, all available literature sources for their dissertation are imported into MAXQDA.
- Excerpts are created as individual documents in MAXQDA, whereby the reference information (Author, year, title) is used as the document name, ideally in the exact citation style which will be used in the later bibliography. Consequently, authors can be easily searched for in the Document System by means of the document name.
- In document memos, further information about the sources can be managed, such as questions raising from particular arguments, criticism of particular works, or whether the source is important for one’s own work.
- The Code System is created following the chapters of the dissertation, with codes following the same order as in the later work. Excerpts or placement of original documents suitable for citation will be coded with these codes.
- As the dissertation is written, the corresponding codes will be activated so all important coded segments will be compiled in the Retrieved Segments window.
- This basis makes writing easy, eliminating the risk of overlooking an important point and allowing the user to “write up” the work.
- After completing the work, for example on a journal article, the sources, excerpts and coded segments remain available. When one is working on a similar topic, this work can be compiled, creating a foundation on which to add further references and excerpts.
Creating literature reviews with MAXQDA

What is meant by the term “Literature review”? Arlene Fink provides the following definition: “A research literature review is a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners.” (Fink, 2010, p. 3)

A literature review as explained in this way is conducted on a specific topic or research question. The objective is to determine the current state of research and/or the scientific discussion with regard to a particular field of knowledge. The focus may be on different pre-determined aspects, for example theoretical or methodological aspects. A literature review represents a specific form of secondary analysis, as it is not a matter of new, independent research but rather a review of research that has already been conducted. A literature review, like an essay, is frequently conducted by an individual researcher. It systematically presents substantial research results, identifies controversies, and summarizes the state of scientific discourse in a specific field. A literature review is always a structured text, not simply a list of sources.

Literature reviews can be created as embedded reviews (embedded within a dissertation or research report, for example) or as stand-alone reviews. The latter are frequently referred to as “systematic reviews”. As a rule, systematic reviews are concerned with the fact that research results are being prepared on a specific question, and identifying any gaps in the research. This is not the case with general embedded reviews, which is not to say that these are unsystematic. Traditionally, however, stand-alone reviews focus more heavily on quantitative aspects.

Work phases for the creation of a literature review

Based on the work of Fink (2010, pp. 4–7) and Heyvaert et al. (2016, pp. 6–8), six phases for the creation of a literature review can be identified:

1. Formulation of research questions and objectives of the review. The research question should be precisely formulated and lead the review.
2. Selection of bibliographic databases, which today are normally online databases.
3. Determination of search terms within these databases.
4. Application of practical and methodological criteria for the selection of high-quality scientific literature.

5. Conducting the review. This includes, among other aspects: import of bibliographic data and eventually full texts; definition of variables such as author, year of publication, etc.; thematic coding of significant text segments, writing of excerpts and summaries.

6. Synthesis of results and writing of the review, either in the form of a qualitative description of results or as a quantitative meta-analysis as a calculation of statistical characteristic values and measures.

MAXQDA can provide valuable support in all phases, particularly in the thematic and content development of primary sources in phases 5 and 6. Before describing the possibilities offered by MAXQDA for this type of work, the differences between MAXQDA and reference management programs such as Endnote, Citavi, Mendeley, Zotero, etc. should be considered. Endnote and the like allow the collection, management and citation of primary, on- and offline sources. The focus of these programs is the management of bibliographic input and the creation of bibliographies corresponding to the different regulations of a large number of scientific publications. For example, the widely-used Zotero program (www.zotero.org) searches for bibliographic information in online catalogs and booksellers such as Amazon, and allows this information to be stored in a local database and to be provided with keywords and metadata. Reference lists can later be exported in various citation styles (for example, in the widely-used APA style). While this type of reference management program focuses on the bibliographic data, MAXQDA focuses on the content. MAXQDA allows for the thematic coding and systematic, qualitative and quantitative analysis of content. MAXQDA is therefore not primarily used for the collection of bibliographic data (although this is possible), nor for the creation of reference lists for publications. However, as described above, MAXQDA allows the user to import bibliographic data from reference management programs.

But now, we return to a description of the phases of creating a literature review with MAXQDA. The literature review is valuable not only as it provides an overview of current knowledge in the field, it also situates the researcher within a wider context and discussion within the scientific community. The phases of creation of a literature review are described in greater detail below.
Phase 1: Formulation of research questions and objectives of the review

Similar to a research project, a literature review begins with the formulation of the research field and question(s) as well as the objectives. However, the question is formulated somewhat more broadly than would normally be the case for a research project. If the focus is overly narrow, sources that are relevant but do not initially appear to be central to the research could be overlooked. In MAXQDA, the research question and objectives are best presented in the form of a free memo (via the tab ANALYSIS > FREE MEMO) as in the following example:

Memo Title:
Literature search on data analysis and integration in mixed-methods research

“The goal of the literature search is to evaluate the current state of the discussion on the topic of data analysis/integration in mixed-methods research. Well-known authors in the mixed-methods research community see the integration of qualitative and quantitative as the primary challenge of mixed-methods research. The review aims to compile the most important positions. Since mixed-methods discourse is conducted in English, only English-language literature should be taken into account. The review will cover the years 2014-2016, and will be limited to the leading journal on this topic, the Journal of Mixed Methods Research.”

Phase 2: Selection of bibliographic databases

The next step is a targeted search for sources that could present information about the topic in question. In a traditional library, literature is identified by means of keywords and keyword catalogs, retrieved from the shelves, then taken to the workspace and placed on the desk. When working with computers and searching in appropriate databases, the principle is similar. The researcher explores databases and scientific journals, saves search hits, and selects sources that are presumed to contribute to the review.

Next, it is important to decide exactly where to search and what to look for, in other words, to select the bibliographic databases and define the search terms. Normally the databases are online, and hundreds of public and private databases exist. The most popular international databases are PubMed (Medicine), MEDLINE (Medicine), ERIC (Education science), JSTOR (various),
LexisNexis (economics and law), PsycINFO (Psychology), Social Science Citation Index and Sociological Abstracts (social sciences) (see Fink 2010, pp.17-21). Also to be noted are private databases such as Springerlink, the portal for the Springer Science+Business Media publishing group, and the databases of journals and periodicals such as that from Sage Publications, which is indispensable for research in the fields of methods and methodology.

A further consideration is whether to include only English-language sources in the search.

**Phase 3: Determination of search terms**

According to these guidelines, the next step is to determine *search terms*. These could be single words or combinations of multiple words. Nearly all databases offer the possibility for advanced searches, in which one can formulate more complex conditions, for example linking search terms with the logical operators AND and OR.

Example: In the *Journal of Mixed Methods Research* (JMMR), a search is conducted for all entries concerning the theme “data analysis.” The search should be restricted to the years 2014-2016. Other possible search terms would be “triangulation” and “integration”; in the following example the search is restricted to “data analysis”.

The search on the JMMR website (http://mmr.sagepub.com/search) results in 62 hits. In the next step, the compilation of results on the website can be checked for relevance on the website, or the full list of results can be imported into MAXQDA and checked there. In this example, it is more efficient to import the results into MAXQDA. When exporting from the Sage Publications website, it is important to ensure that both the citation and the abstract are exported. The RIS-format should be selected from the list of available formats, for example Mendeley RIS. The file can be imported into MAXQDA via the menu function IMPORT > BIBLIOGRAPHIC DATA.

**Phase 4: Application of practical and methodological criteria for the selection of high-quality scientific literature**

This phase concerns the selection of relevant literature, that is to say the literature found in the database search is now examined in order to determine if it falls within the narrower parameters of the research question, and whether it fulfills the objectives of the review.
Practical as well as methodological criteria of the selection should be documented. Practical criteria are those which relate to the practical accessibility, language, and type of publication. For example, for a study on environmental awareness in Europe, only results in the most common languages, possibly only in English, would be considered. In addition, the search would be restricted to only the most important social science journals.

Methodological criteria for this review could be, for example, the quality and manner of sampling, or the “seriousness” of the institute carrying out the survey. It is possible that for methodological reasons, sources based on online surveys would be excluded because of the conditions of sampling are arbitrary.

For the earlier example of the literature review of data analysis in mixed methods research, all bibliographic search hits were imported into MAXQDA. The sources now appear in the Document System. The image below shows how MAXQDA appears after this information is imported.
View following import of search results in “Journal of Mixed Methods Research”

The RIS-format tags are found in the Code System. Here it can be seen that an abstract is available for only 36 of the 55 sources. The list of document variables displayed on the right shows that five tags are also available as variables for later selections, namely type of publication, author, title, ID, and year of publication.

The next step is to systematically read each abstract in order to decide if the source is relevant or not. It is advisable to set up two (or more) new document groups to which the results can be assigned according to their relevance. The names of the document groups should indicate their functions, for example “Relevant Sources” and “Less Relevant Sources.” Sources that do not contribute to the review can be deleted immediately. If there is any doubt concerning where to assign a source when reading the abstract, the full text can be obtained by clicking the link coded with the tag “UR_Web/URL”. This will open the information page in the Sage Publications.
database. A link leading to the full text is located here. Reading the full text provides a solid basis on which to classify the text as relevant or less relevant.

Other variables which allow the user to make selections or comparisons and recognize trends can be defined in this phase of the literature review. For example, the variable “Year of publication” allows for the creation of a distribution of sources by year.

There may be other primary sources outside the results of the database search that should be included in the review. In principle, all types of sources, including audio and video sources, can be imported into MAXQDA. Sources such as books that cannot be borrowed may only be available as scanned copies. Such scanned sources can also be included in the literature review.

Hints for scanned sources

If no digitized version of a relevant source is available, the only option is to use scanned pages. This results in a photo or PDF file. Using software such as Adobe Acrobat, it is possible to perform an OCR text recognition. This is absolutely recommended, as in this way searches can be performed on words in the text and all word-related functions in MAXQDA including MAXDictio can be used.

If the sources have been classified according to their relevance, particularly relevant works can be imported as full texts. It is best to create a new document group (for example, “Primary literature”) and to download and import full texts into this folder. Ideally, the full text and bibliographic reference should be linked.

Linking full text and bibliographic reference

- Open the full text.
- Open the bibliographic reference in the second document browser.
- Highlight the first word (or first paragraph) in the full text and select INSERT DOCUMENT LINK from the context menu.
- Highlight the first word (or first paragraph) in the bibliographic reference and select INSERT DOCUMENT LINK from the context menu.
For many databases, particularly private databases, you may only download full texts if you have authorization to do so. This is the case at most universities, and all members of the university may have access. It may be necessary to log into the university network via VPN.

Phase 5: Conducting the review

The process of conducting a literature review varies depending on the nature of the research questions and the objectives of the review as well as the range of the sources. In addition, the process depends on the time available for the preparation of the review. If only little time is available, it is necessary to restrict the material and eventually the formulation of practical and methodological criteria (see Phase 4). In this case, the review will be based mainly on the abstracts and not on the more extensive full texts. Here are some of the possibilities MAXQDA offers for conducting a literature review:

Working with word clouds
What are the central themes of a text and the key terms that are used? These can be easily explored by clicking on the full text or the bibliographic reference and selecting the option WORD CLOUD. Nonsensical words or words that are not relevant in the context of the review can be transferred to the stop list.

Explore full texts and work with memos
In view of the abundance of publications available on almost every topic, one is often not able to read the entire book or journal article. Using the context search in the Document Browser, one can search specifically for the presence of search terms, which greatly reduces the number of text passages that need to be read intensively. Questions which arise, alongside ideas and core statements, can then be stored as memos attached to the corresponding text passages. The overall assessment, evaluation and criticism of a text can be stored in the form of a document memo in the Document System.

Emphasize important text passages
Reading a text and underlining important points is a common practice. One can work in the same way when creating literature reviews in MAXQDA: Five distinct colors are available for col-
or coding text passages. The marked passages can be easily located at a later time. In some cases, it may be useful to provide the text passages with a thematic code rather than color coding.

*Explore the frequency of words and terms used in the sources*
Using the Word Frequency function (part of the MAXDictio module), one can analyze the frequency of words in one or more documents. In addition, a differentiated evaluation can be performed on documents, document groups and document sets. As with tag clouds, nonsensical words can be transferred to the stop list and therefore excluded from the analysis.

*Writing of excerpts*
Excerpting text is one of the classic techniques of literature work. In MAXQDA, a document group “Excerpts” should first be defined, in which all excerpts are stored. Next, select the option NEW TEXT DOCUMENT from the context menu of this new document group. A new document will appear in the Document Browser in edit mode, where one can start to write an excerpt. If the full text has been imported, it can be opened in the second document browser, allowing the user to read the source text and write the excerpt concurrently. The text segment and the corresponding excerpt can be linked using document links.

The name of the excerpt should also contain the author and year; furthermore, the excerpt should be linked to the bibliographic reference using the procedure described above.

*Automatic coding of text segments*
Interesting keywords can be searched in the text and automatically coded using the function ANALYSIS > LEXICAL SEARCH. The range of text passages to be coded can be freely selected by the user (reference, sentence, several sentences, paragraph). Following automatic coding, these points can be collocated and further explored.

*Manual thematic coding of significant text passages*
It is possible to code the relevant text passages when the primary text is available, which is normally the case with journal articles. In this case, working with thematic codes which are as close as possible to the research questions in the scope of the review is recommended. By means of specific labeling, it is possible to indicate the passages that are suitable for later quotation. For this purpose, a specific code, for example “Suitable for quotation” can be defined. Alternatively,
the comment function or a weight score can be used. For each coded segment, a short comment can be added, for example, in this case, “Quotation”. It is possible to sort the coded segments via the comment column in the Overview of Coded Segments, so that all possible quotations are listed in succession. It is also possible to assign coded segments with a weight score. For example, if a weight of “1” is entered, all corresponding text segments can be easily retrieved at a later time.

Distinguishing, encoding, and statistically analyzing different dimensions
For a specific content area, for example the research design, specific dimensions can be identified and defined as subcodes, for example “Explanatory sequential Design,” “Exploratory sequential design,” or “Convergent design.” Using the option SUBCODE STATISTICS in the context menu of the Code System, the frequency of the different design types can be determined and displayed as a table or graph.

Visual representation of themes and sources
MAXQDA’s Visual Tools can be used very effectively for literature reviews. They presuppose that thematic coding of relevant texts has taken place, either manually or using automatic coding of search term keywords.

- The Code Matrix Browser displays the themes covered and their respective frequency per text in a comparative diagram.
- The Code Relations Browser displays the simultaneous treatment of themes in a diagram.
- The Single-Case Model (available in MAXMAPS) represents the coded themes and their respective frequencies for a selected source.

Writing thematic summaries and creating summary tables
This technique uses MAXQDA’s SUMMARY GRID. This makes it possible to write, store and summarize thematic compilations in comparative tables (“Summary Tables”). In order to use this technique, thematic coding of relevant texts must have taken place.

Quantitative evaluation of themes
Quantitative aspects can also be relevant in a literature review. For example, it is possible to sort sources according to variables (e.g. Year of publication) and answer questions such as “How are
the sources distributed over time?” or “Has the investigation of the topic ‘Data analysis/integration’ increased or decreased during the period under study?”.

Statistical tables with absolute and relative frequencies as well as bar and pie charts can be created for thematic codes and subcodes in MAXQDA. More complex analyses including correlation analyses can also be carried out with the STATS module in MAXQDA.

Phase 6: Synthesis of results and writing of the review

Most of the work has been completed in the first five phases, and now the findings must be summarized. When the review is written, the preparatory work of the first five phases comes into effect, that is to say, the results of the previous work prepare the researcher to write a well-structured text. One can effectively build on the memos prepared in phases 5 and 6, as well as the tables such as summary tables, and visual representations, in the review.

There are two types of reviews:

1. A review in the form of a qualitative description of results (Descriptive literature review); occasionally, quantitative results can also be included, such as the number of sources, their distribution over time, eventual trends, frequency of sub-topics, etc. The focus, however, remains a qualitative one.

2. A review in the form of a quantitative meta-analysis with calculations of statistical parameters and measures. Here, the results of statistical procedures are central, as in the case of a meta-analysis of attitude-behavior research, where average correlations in various spheres of activity are calculated and communicated.

Both types of literature reviews should always contain the following four parts (Fink 2010, pp. 206–207):

- Mission and objectives of the review
- Methods and sampling
- Results
Conclusions

In the case of a quantitative meta-analysis, the methods section should be expanded with particular attention to the description and substantiation of the statistical methods used.

When writing the review, the following MAXQDA tools can provide valuable assistance:

- The Coding Query, with which previously classified text segments can be located.
- Memos, particularly the free memos written during the course of work on the review, from which passages can be copied and inserted into the final text.
- Summary Tables, with which compressed summaries of sources can be effectively compared and represented. Summary tables can also be integrated into the review.
- The word frequency functions of MAXDICTIO, with which the application of specific search terms and semantic contexts can be represented.
- The graphical representation possibilities of MAXMaps, which in particular permit the creation of concept maps.
Further reading


Fink, Arlene. 2010. Conducting research literature reviews: from the Internet to paper. 3rd ed. Los Angeles: SAGE.


Goodbye

We hope this Guide helped you get started with MAXQDA for literature reviews. Of course, MAXQDA offers a whole range of further analysis functions and tools. To name a few examples, you can:

- transcribe audio and video files
- import and analyse Twitter data
- analyse focus groups
- visualize data or results
- conduct a quantitative text analysis with MAXDictio
- generate reports and statistical frequency tables

You can find a wide range of resources on our website www.maxqda.com

- free introductory webinars
- online manual
- video tutorials
- list of upcoming workshops
- professional MAXQDA trainer database
- research blog, user forum, and more...

MQIC – MAXQDA International Conference

The annual MAXQDA International Conference brings together MAXQDA users from all over the world in Berlin, Germany. The conference offers a rich programme that covers everything on MAXQDA and Mixed Methods research. It’s a unique possibility for networking with other MAXQDA users or talking to the MAXQDA development team.